

DOT MATRIX SERIAL IMPACT PRINTER

MODEL 8300P

PRODUCT SPECIFICATION

| | |
|--------|---|
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All of the features and specifications are subject
to change without prior notice.

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Appendix 1 Dot-Matrix Format

1. Application

This specification applies to Model 8300P Self-Contained Dot-Matrix Serial Impact Printer.

2. Outside View and Part Descriptions

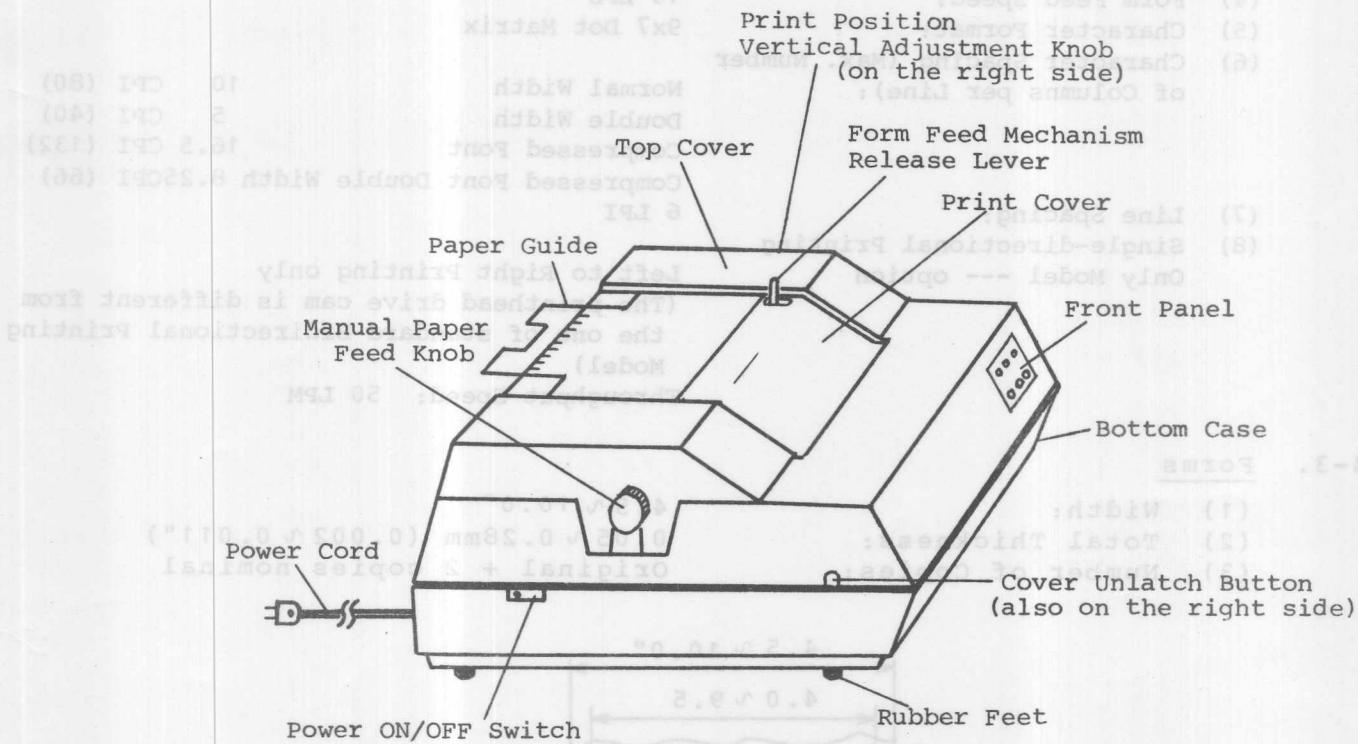


Fig. 1 Outside View

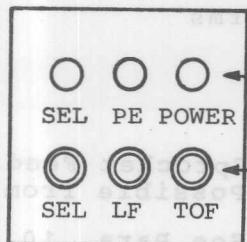


Fig. 2 Front Panel

3. Specifications

3-1. Model No.:

8300P

3-2. Print Features

| | |
|--|---|
| (1) Print Speed: | 125 CPS |
| (2) Print Direction: | Single-directional and Bidirectional (Switch selectable) |
| (3) Throughput Speed: | 63 LPM at Bidirectional Printing |
| (4) Form Feed Speed: | 10 LPS |
| (5) Character Format: | 9x7 Dot Matrix |
| (6) Character Spacing (Max. Number of Columns per Line): | Normal Width 10 CPI (80) Double Width 5 CPI (40) Compressed Font 16.5 CPI (132) Compressed Font Double Width 8.25CPI (66) 6 LPI |
| (7) Line Spacing: | Left to Right Printing only |
| (8) Single-directional Printing Only Model --- option | (The printhead drive cam is different from the one of standard Bidirectional Printing Model) |

Throughput Speed: 50 LPM

3-3. Forms

| | |
|-----------------------|--------------------------------|
| (1) Width: | 4.5 ~ 10.0" |
| (2) Total Thickness: | 0.05 ~ 0.28mm (0.002 ~ 0.011") |
| (3) Number of Copies: | Original + 2 copies nominal |

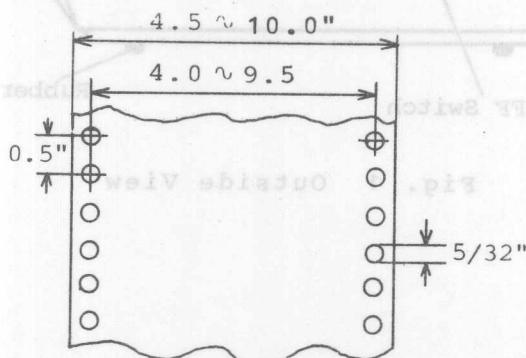


Fig. 3 Forms

3-4. Form Feed

| | |
|-------------------|-------------------------------------|
| (1) Method: | Sprocket Feed |
| (2) Form Loading: | Possible from either bottom or rear |

3-5. Inked Ribbon

| | |
|-------------|-----------------|
| (1) Width | 13mm |
| (2) Length: | 11m |
| (3) Color: | Purple or black |

4. Interface4-1. Data Entry:

7-bit Parallel
(8-bit switch selectable for
Japanese characters. Refer to
Para. 5-1)

4-2. Control Signals:

ACK, BUSY, SELECT, PE, DATA•STB,
INPUT PRIME, FAULT, INPUT BUSY,
(+5VDC). (Refer to Para. 4-10
for details)

4-3. Characters:

ASCII 96 chara., JIS 157 chara.
Options: Special characters for
U.K., Germany, Sweden
(Refer to Para. 5-1 and 7-2)

4-4. Function Codes (ASCII):

CR, LF, VT, FF, CAN, SO, SI, (DEL),
DC1, DC2, DC3, DC4, GS, RS, US, FS, EM
(Refer to Para. 6-1)

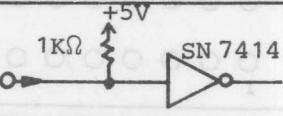
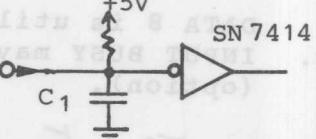
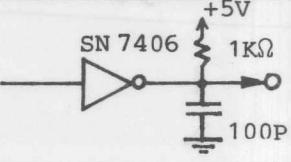
4-5. Character Buffer:

One Line (80 or 132 bytes)
(2 bytes per double-width character)
No data can be received when print-
ing or paper feed is performed.

4-6. Signal Level:

TTL Compatible
(Refer to Para. 4-7)

4-7. Input Output Circuits

| | Signal | Circuits |
|--------|---|--|
| Input | DATA 1 { DATA 8 |  |
| | <u>DATA•STB</u> <u>INPUT PRIME</u> |  |
| Output | <u>BUSY</u> , <u>SELECT</u> <u>FAULT</u> , <u>ACK</u> <u>INPUT BUSY</u> , <u>PE</u> |  |

C₁: DATA•STB 33P
INPUT PRIME 220P

(Fig. 4)

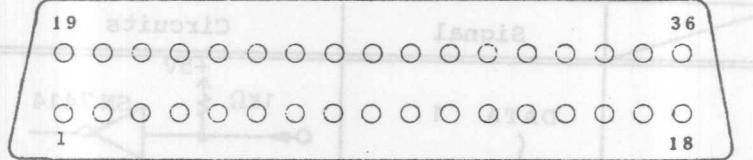
4-8. Connector

On Printer:
Mating:

Japan AMP 552742-1
Not provided with the printer

4-9. Connector Pin Assignment

| PIN | PIN |
|--------------------------|--|
| 1 — DATA STROBE ✓ | 19 TWISTED PAIR GND (PAIR WITH 1 PIN) |
| 2 — DATA 1 ✓ | 20 () 2 () |
| 3 — DATA 2 ✓ | 21 () 3 () |
| 4 — DATA 3 ✓ | 22 () 4 () |
| 5 — DATA 4 ✓ | 23 () 5 () |
| 6 — DATA 5 ✓ | 24 () 6 () |
| 7 — DATA 6 ✓ | 25 () 7 () |
| 8 — DATA 7 ✓ | 26 () 8 () |
| 9 (DATA 8) | 27 () 9 () |
| 10 — ACKNOWLEDGE ✓ | 28 () 10 () |
| 11 — INPUT BUSY (BUSY) ✓ | 29 () 11 () |
| 12 — PE | 30 TWISTED PAIR GND (PAIR WITH 31 PIN) |
| 13 — SELECT | 31 INPUT PRIME |
| 14 OV | 32 FAULT |
| 15 NC | 33 0 V |
| 16 OV | 34 N C |
| 17 CHASSIS GND | 35 N C |
| 18 +5VDC | 36 N C |



(Fig. 5)

Notes: 1. DATA 8 is utilized only for Japanese version.
 2. INPUT BUSY may be transmitted through Pin 36 (option).

Output DB-25

IBM to Centronics

| | | | |
|----|----|-------|---------------|
| 1 | 1 | 13 | 13 |
| 2 | 2 | 14 | 14 |
| 3 | 3 | 15 | 32 |
| 4 | 4 | 16 | 31 |
| 5 | 5 | 17 | 36 |
| 6 | 6 | 18-25 | 16, 19-30 233 |
| 7 | 7 | | |
| 8 | 8 | | |
| 9 | 9 | | |
| 10 | 10 | | |
| 11 | 11 | | |
| 12 | 12 | | |

4-10. Input Output Signals

- (1) DATA 1 ~ 7
 - (a) 7-bit parallel input data signal.
 - (b) Logic "1" is "High" level.
 - (c) Minimum data pulse width is 3 μ s.
- (2) DATASTROBE (DATA·STB)
 - (a) This signal strobes in the above data signal.
 - (b) The signal is ON at "Low" level.
 - (c) Minimum pulse width is 1 μ s.
- (3) INPUT PRIME
 - (a) This input signal initializes the printer except the VFU preset.
 - (b) All of the characters stored in the DATA BUFFER and SO SI codes are cleared upon receipt of this signal. In case the signal is entered when the printing is performed, the printer will be initialized after the data already stored in the DATA BUFFER have been printed out.
 - (c) Minimum pulse width is 1 μ s.
- (4) ACKNOWLEDGE (ACK)
 - (a) The printer transmits this signal when the printer has received data and has performed all of the functions commanded, if any, and is ready to receive additional data or function codes.
 - (b) Nominal pulse length is 7 μ s.
 - (c) The signal is normally at "High" level and is ON at "Low" level.
 - (d) The signal is transmitted whenever the "BUSY" signal turns from "High" to "Low" level.
- (5) BUSY
 - (a) This is an output signal from the printer. When the signal is at "High" level, no input codes, except DC1 code, are allowed to enter the printer.
 - (b) The signal is at "High" level or the printer is in "BUSY" status under the following conditions:
 - o The printer is in operation for Paper Feed, Printing, etc.
 - o The printer is in the "DESELECT" status.
 - o The printer is in the "FAULT" status.
 - o The CAN or DEL code, an undefined code, or INPUT PRIME has been entered. (However, the "BUSY" status in this case will be cancelled after a specified amount of time.)
- (6) SELECT
 - (a) This signal is an output signal from the printer and represents either "SELECT" status or "DESELECT" status of the printer.
 - (b) The signal is at "High" level when the printer is in the SELECT status, and "Low" level when in the DESELECT status.

sample page 1 of 1

(c) The printer becomes "SELECTED" under the following conditions:

- o The SELECT switch is depressed while the printer is in the "DESELECT" status. (If the DATA BUFFER stores no data and the SELECT switch is depressed under the "PE" condition, the printer temporarily assumes the "SELECT" status, receives and prints out data for one line, then reverts to the "DESELECT" status. Refer to Para. 6-6(2))
- o The DC1 code is entered, provided that the DATA BUFFER has not stored data.
- o The printer power has just been turned on provided the jumper connection (refer to Para. 5-7) is selected accordingly.

(d) The printer becomes "DESELECTED" under the following conditions:

- o The SELECT switch is depressed when the printer is in the "SELECT" status.
- o The DC3 code is entered.
- o The printer is in the "PE" status.
- o The printer power has just been turned on provided the jumper connection (refer to Para. 5-7) is selected accordingly.
- o The printer is in the "FAULT" status.

(7) FAULT

(a) This is an output signal from the printer to signify the "FAULT" status of the printer.

(b) The signal is at "Low" level when the printer is in the "FAULT" status.

(c) The printer will assume "FAULT" status under the following conditions:

- o The printer is in the "PE" status.
(However, if the "SELECT" switch is depressed, the signal level will temporarily become "High", and the stored characters in the DATA BUFFER, if any, will be printed out and then the signal level reverts to "Low". Refer to Para. 6-6(2))
- o The printer is in the "DESELECT" status.
- o An error or a malfunction has occurred in the printer. (e.g.: The Timing Pulses are not generated.)

(8) INPUT-BUSY

(a) This output signal is similar to the BUSY signal and represents the "BUSY" status of the printer.

(b) The level, "High" or "Low", of this signal is determined the same as the case of the BUSY signal except that the INPUT-BUSY signal also becomes "High" when the printer is receiving data.

(9) +5VDC

(a) This is not a signal. It is a +5VDC power source to an outside device.

(b) The maximum output amperage is 50mA.

4-11. Timing Chart

(1) In case the received datum is a print command or an undefined code

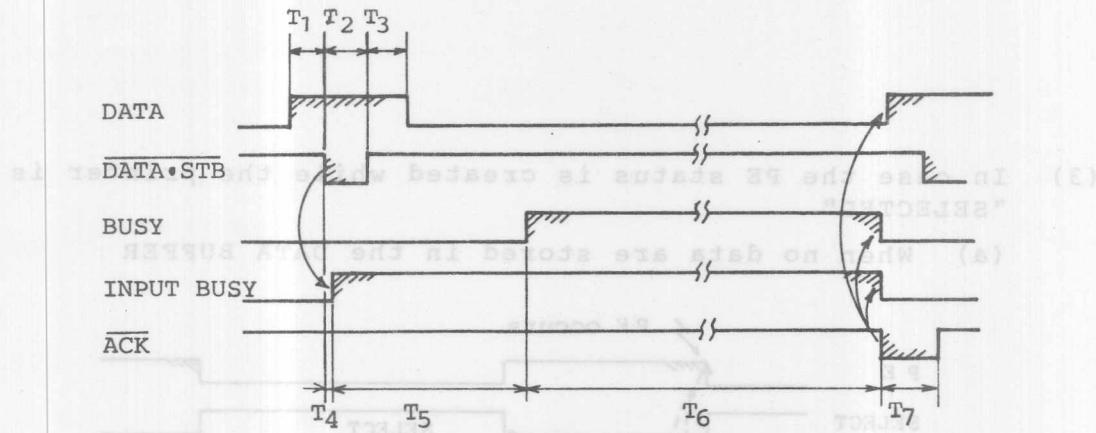


Fig. 5

(2) In case the received datum is not a print command

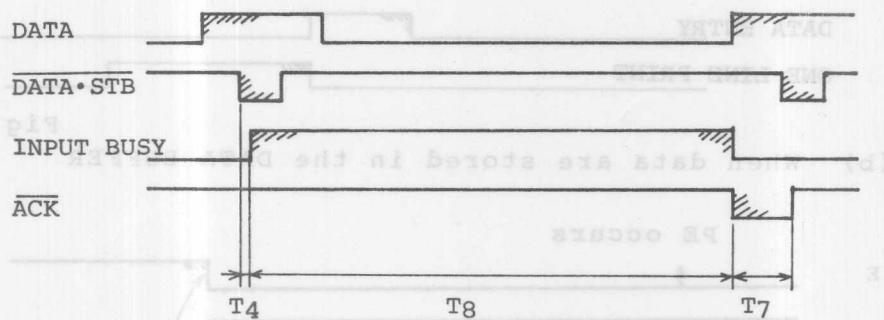


Fig. 6

T₁, T₂, T₃: Min. 1μs
 T₄: Max. 100ns
 T₇: 6 ~ 8μs
 T₈: 0.8 ~ 1.1ms

| | Line Feed Only | Printing & Line Feed | CAN | DC3 | Undefined Code |
|------------------|-------------------|-------------------------|-------|-------|-------------------|
| T ₅ : | 1.6ms | 1.4ms | 500μs | 1.1ms | 500μs |
| T ₆ : | 100ms | PT + 145ms | 1.7ms | — | 700μs |

PT: From motor start to end of print line.
 approx. 700ms for 10 CPI printing
 approx. 1150ms for 16.5 CPI printing

Timing Chart (1)

In case the printer is selected by a printer command or an enable code



(3) In case the PE status is created while the printer is "SELECTED"

(a) When no data are stored in the DATA BUFFER

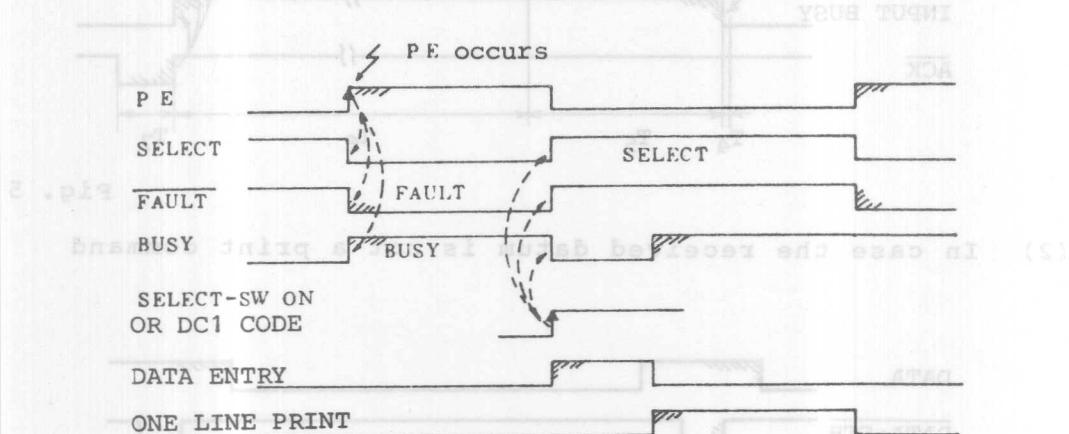


Fig. 7

(b) When data are stored in the DATA BUFFER

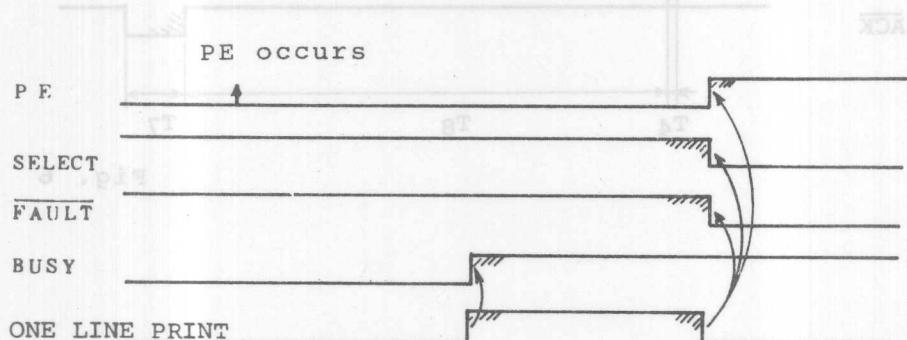


Fig. 8

2-3. Country Codes

5. Variation of Specification and Function

The Model 8300P Printer provides the variation of specification, function, and interface as described below. Selection is made by means of internal DIP switches or jumpers.

5-1. Country of Destination

Depending on the country of destination, different characters are available. (See Paragraph 7 for specific characters.)

| Country | Number of Bits per Chara. | SW2-1 | SW2-2 | SW2-3 | (ST) |
|---------|---------------------------|--------------|--------------|----------------|------|
| U.S.A. | 7 | open | closed | open | |
| Japan | 8 7 | open open | open open | open closed | |
| U.K. | 7 | open | closed | closed | |
| Germany | 7 | closed | open | open | |
| Sweden | 7 | closed | open | closed | |

Note: The switch position indicated by "(ST)" is selected when the printer is delivered.

5-2. TOF-to-TOF Length

The number of lines from a TOF to the next TOF can be selected by a switch.

| (a) | open | SW1-1 | (ST) |
|-------------------|--------|-------|------|
| TOF-to-TOF Length | | | |
| 66 lines | open | | |
| 72 lines | closed | | |

5-3. Control Codes

Functions of certain control codes, character codes, or signal usage are switch selectable.

| Selectable Function | Switch No. | closed | open (ST) |
|-------------------------------------|------------|-----------------|-------------------|
| Character Font of "Zero" | SW1-2 | 0 | 0 |
| Function of CR | SW1-4 | Print(only) | Print & Paper Fd. |
| Function of DEL | SW1-5 | CANCEL | Ignored |
| Printing on CR(only) or CR,LF,VT,FF | SW1-6 | CR, LF, VT, FF | CR (only) |
| Usage of DC1 & DC3 | SW1-7 | Ignored | Effective |
| SI/SO Method or SO(only) Method | SW1-8 | SO(only) Method | SI/SO Method |

(T2) The functions of SO, SI, DC2, and DC4 for the Japanese models are as follows:

| Code | 8-bit Model | 7-bit Model |
|------|------------------------|--------------------------------|
| SO | Double-Width Command | Select "Katakana" characters |
| SI | Revert to Normal-Width | Deselect "Katakana" characters |
| DC2 | Ignored | Double-Width Command |
| DC4 | Ignored | Revert to Normal-Width |

5-4. Compressed Characters

The number of characters per line may be selected between 80 (10 CPI) and 132 (16.5 CPI).

| Number of Chara. Per Line | SW2-7 |
|------------------------------|--------|
| 80 (10 CPI) | open |
| 132 (16.5 CPI) | closed |

Note: The "open" position is overridden by the FS code, provided that the SW2-4 is open. (Refer to Para. 5-5) When the switch SW2-7 is closed, 16.5 CPI will be printed. The entry of an EM code, if any, will revert the 16.5 CPI printing to 10 CPI, whichever the switch position may be, provided that the switch SW2-4 is open.

5-5. FS and EM Codes

The FS code normally commands 16.5 CPI printing, and the EM code reverts it to 10 CPI. However, these codes may be ignored by means of a switch.

| | |
|-----------------|--------|
| FS and EM Codes | SW2-4 |
| Effective | open |
| Ignored | closed |

(TS) (ST)

5-6. Selection of Print Direction

The print direction can be selected by a switch.

| | |
|--------------------|--------|
| Print Direction | SW1-3 |
| Single Directional | closed |
| Bidirectional | open |

(ST)

5-7. SELECT or DESELECT upon Power-On

When the power switch is turned on, SELECT or DESELECT status depends on jumper connection.

| | | |
|--------------------|----------------|----------------|
| Select or Deselect | J ₁ | J ₂ |
| SELECT | O | X |
| DESELECT | X | O |

O: Jumper connected X: Jumper not connected

5-8. LF or Non-LF upon Data Buffer Full

Line feed may or may not take place, after the printing upon "Buffer Full" is performed, depending on the switch position. (Refer to Para. 6-6 (1))

| | |
|--------------|--------|
| LF or Non-LF | SW2-6 |
| LF | closed |
| Non-LF | open |

(ST)

5-9. Effect of Data Bit 8

The effect of the data bit 8, if entered, can be selected by a switch.

| | |
|---|--------|
| Effect of Data Bit 8 | SW2-5 |
| The corresponding code is ignored | closed |
| Effective as the corresponding function code represented by the bits 1 to 7 | open |

Note: Bit 8 is always ignored unless the 8 bit/chara. mode is selected. (Refer to Para. 5-1)

5-10. Signal from Pin 11

Either INPUT BUSY or BUSY can be selected for Connector Pin 11 by means of jumpers.

| Signal from Pin 11 | J ₃ | J ₄ | |
|--------------------|----------------|----------------|------|
| INPUT BUSY | O | X | (ST) |
| BUSY | X | O | |

6. Printer Function

6-1. Function Codes

(1) CR Carriage Return

- (a) A print command.
- (b) After printing, one line feed does or does not take place, depending on the position of the selector switch (Refer to Para. 5-3)
- (c) In case the Bottom of Form (BOF) is set in the Vertical Format Unit (VFU), this function code causes the printer to feed the paper to the next Top of Form (TOF) position after the BOF has been printed. (The VFU is of 6-channel and to be loaded through the printer interface.)
- (d) In case no data for printing have been received before this code, and the "Auto Line Feed on CR" mode is selected by the selector switch (Refer to Para. 5-3), this code causes paper to advance by one line.
- (e) In case the print head stays somewhere other than the home position when the CR code is entered, the print head is moved to the home position before printing.

(2) LF Line Feed

- (a) The code causes paper to advance by one line.
- (b) In case the "Printing on LF VT FF" mode is selected by the selector switch (Refer to Para. 5-3), printing is performed before line feed.
- (c) In case the BOF is set in the VFU, the code causes the paper to skip to the next TOF from the BOF.
- (d) If and when the "Printing on LF VT FF" mode is not selected and an LF code is entered immediately after character codes, the LF code is ignored.

(3) VT Vertical Tab

- (a) This code causes paper to skip to the line indicated by Channel 2 in the VFU.
- (b) In case the "Printing on LF VT FF" mode is selected by the selector switch (Refer to Para. 5-3), the data stored in the DATA BUFFER will be printed, and the paper is advanced to the line indicated by Channel 2 in the VFU. If Channel 2 is not loaded, paper will be advanced to the next TOF.
- (c) If and when the "Printing on LF VT FF" mode is not selected and a VT code is entered immediately after character codes, the VT code is ignored.

(4) FF Form Feed

- (a) This code causes paper to skip to the next TOF indicated by Channel 1 in the VFU.
- (b) In case the "Printing on LF VT FF" mode is selected by the selector switch (Refer to Para. 5-3), the data stored in the DATA BUFFER will be printed, and the paper is advanced to the next TOF.
- (c) If and when the "Printing on LF VT FF" mode is not selected, and an FF code is entered immediately after character codes, the FF code is ignored.

(5) CAN Cancel

(a) This code deletes all of the data and SI or SO code in the DATA BUFFER.

(6) SO Shift Out

(a) This code commands production of double-width characters.

(b) Either the SO/SI mode of the SO-only mode can be selected by the internal "SO/SI or SO-only" selector switch. (Refer to Para.

(c) In case the SO/SI mode is selected, the double-width character mode, once created, is maintained until an SI code is entered. (The double-width character mode is maintained even after line feed unless an SI code is entered.)

e.g.: If "1 2 3 SO 4 5 6 CR 7 8 9 CR" are entered, and "Line Feed on CR" and SO/SI modes are selected, the following will be printed:

123456

789

(d) In case the SO-only mode is selected, and an SO code is entered, double-width character mode is created for all of the characters entered in the DATA BUFFER, but only for the particular line, regardless of the condition as to whether the characters are entered before or after the SO code. If an SO code is entered after the entries of 40 characters or less, and no more characters are entered, all of the entered characters will be printed in double-width. If a total number of entered characters for a line is any of 41 to 80, and an SO code is entered after any number of characters, all of the entered characters will be printed normal-width. (All statements are not applicable to compressed characters.)

(e) In case more than one SO code is entered before an SI code, all of the SO codes except the first SO code are ignored.

e.g.: If "1 2 3 SO 4 5 6 SO 7 8 9 SO" are entered, the second and third SO codes will be ignored.

Note: The Japanese 7-bit model is an exception.
See Para. 5-3.

(7) SI Shift In

(a) In case the SO/SI mode is selected, and an SO code has been previously entered, this code causes a reversion to the normal-width character mode only for subsequently received characters.

e.g.: If "1 2 3 SO 4 5 6 SI 7 8 9 CR" are entered, the following will be printed:

123456789

- (b) In case the SO-only mode is selected, and an SI code is entered, the SI code will be ignored.
- (c) In case the SO/SI mode is selected, and no SO code is previously entered, an SI code, if entered, will be ignored.

Note: The Japanese 7-bit model is an exception.
See Para. 5-3.

(8) DEL Delete

- (a) This code will be normally ignored.
- (b) The code may be utilized the same as the CAN code by means of a selector switch. (Refer to Para. 5-3)

(9) DC1 Device Control 1

- (a) The function of this code is switch selectable. (Refer to Para. 5-3)
- (b) When the switch is "off", this code causes the printer to be in the "SELECT" status. In case the code is entered when the printer is in the "SELECT" status, the code will be ignored.
- (c) When the switch is "on", this code will only be ignored.

(10) DC2 Device Control 2

- (a) This code is utilized as a function code only for the Japanese models. (See Para. 5-3 for the function of this code.)
- (b) For all other models, this code is ignored.

(11) DC3 Device Control 3

- (a) The function of this code is switch selectable. (Refer to Para. 5-3)
- (b) When the switch is "off", this code causes the printer to be in the "DESELECT" status. In case the code is entered when the printer is in the "DESELECT" status, the code will be ignored.
- (c) When the switch is "on", this code will only be ignored.

(12) DC4 Device Control 4

- (a) This code is utilized as a function code only for the Japanese models. (See Para. 5-3 for the function of this code.)
- (b) For all other modes, this code is ignored.

(13) GS Group Separator

- (a) This is a "Start Load" code of the VFU.
- (b) The data entered immediately after this code are to be loaded into the VFU memory.
- (c) Succeeding the GS code, the TOF code should always be entered. If any other code has succeeded the GS code, the GS code is cancelled. Then, the VFU pre-programmed format becomes effective. (See Para. 6-2)

(14) RS Record Separator

- (a) This is an "End of Load" code of the VFU.
- (b) This code should always be preceded by the TOF code. In case this code is not preceded by the TOF code, the RS code and the particular VFU loading are cancelled, and the VFU Pre-programmed Format becomes effective. (See Para. 6-2)

(15) US Unit Separator

- (a) This code is a Vertical Tab command. It instructs the printer to perform the vertical tabulation according to the VFU format already set and the designation meant by the one-byte code which succeeds the US code.

- (b) The one-byte code which succeeds the US code designates either a channel of the VFU format or a number of lines to be skipped for the particular vertical tabulation.

- (c) The one-byte code succeeding the US code signifies a VT control, as follows:

1. In case bit 4 of the one-byte code is "0", a channel of the VFU format is designated by the three least significant bits: bits 0 to 2. (The channel number may be any of 1 to 6.) If channel 1 has been designated by the three bits, the paper feeds to the next BOF or TOF. The three most significant bits, i.e. bits 5, 6, 7, may be either "0" or "1" and are not effective.
2. In case bit 4 of the one-byte code is "1", a number of lines to be skipped is designated by the four least significant bits: bits 0 to 3. (The number of lines to be skipped is any of 1 to 15.) The three most significant bits, i.e. bits 5, 6, 7, may be either "0" or "1" and are not effective.

Expl.

| Bit No. | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|------------------------|---|---|---|---|---|----------------|----------------|----------------|
| US code | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| One-byte code | | | | | | | | |
| succeeding US code (1) | * | * | * | 0 | 0 | C ₂ | C ₁ | C ₀ |

(16) FS . File Separator (a) This code causes the printing of 132 characters per line (16.5 CPI). (b) The 16.5 CPI print mode remains until an EM code is received.

(17) EM End of Medium
 (a) This code causes the reversion from 16.5 CPI print mode to 10 CPI print mode.
 (b) In case no FS code has been previously entered, the EM code is ignored.
 (c) In case the 16.5 CPI print mode is selected by means of selector switch SW3-4 (Re. Para. 5-7), all EM codes are ignored.

Note: FS or EM code must be entered before any of the print characters of a corresponding line. Otherwise, FS or EM code will be ignored. (The change of character size between 10 CPI and 16.5 CPI cannot be performed within a line because the travel speed of the printhead cannot be changed while printing is taking place.)

6-2. Vertical Format Unit (VFU)

- (1) Max. Number of Lines per Format: 66 or 72 (Switch selectable. (TOF to the next TOF) Refer to Para. 5-2)
- (2) Max. Form Length: 12"
- (3) Number of Total Channels: 6
- (4) VFU Pre-programmed Format

The printer is provided with a format which is preset at the factory, i.e. Pre-programmed Format. Unless any other format is set by a user, the printer sets the Pre-programmed Format by itself, as follows:

Number of Lines (TOF to BOF): 66 or 72
 (Switch selectable)
 TOF Position : 1st line
 Tab Setting : Every 6 lines from TOF, set in channel 2

(5) TOF Setting

Channel 1 is exclusively utilized for Top of Form. The TOF position of the form is the line opposing the print head when the printer is powered on. The TOF position is not affected when the printer is deselected.

(6) VT Setting

Channels 2 to 6 are allocated for different Vertical Tabs.

(7) BOF Setting

Channels 1 and 2 are always jointly used for Bottom of Form.

(8) Coding for VFU Data Loading

(a) VFU data loading starts with the GS code. (Refer to Para. 6-1(13))

(b) VFU data for each line is represented by a pair of sequential bytes. Each channel is indicated as per the following coding method:

| Bit No. | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|-------------------------------|---|---|-----|-----|-----|-----|-----|-----|
| A Pair of Bytes for Each Line | | | | | | | | |
| { 1st Byte | * | 1 | Ch6 | Ch5 | Ch4 | Ch3 | Ch2 | Ch1 |
| 2nd Byte | * | 1 | * | * | * | * | * | * |

Notes: 1. Bit 6 is always "1".
 2. Bit 7 may either be "0" or "1", i.e. not effective.
 3. Bits 1 through 5 of the 2nd Byte are not effective.

TOF is represented by "1" for "Ch1" and "0" for every other channel. BOF is designated by "1" for both "Ch1" and "Ch2" and "0" for every other channel.

(c) VFU data loading ends by the RS code. (Refer to Para. 6-1(14))

6-3. Operation Switches

- (1) SEL (SELECT) Switch
 - (a) A push-push switch on the front panel.
 - (b) Each time this switch is depressed, the printer status alternately turns from DESELECT to SELECT or from SELECT to DESELECT.
- (2) LF Switch
 - (a) A push switch on the front panel.
 - (b) One line feed takes place at each depression.
 - (c) This switch is disabled when the printer is in the SELECT status.
- (3) TOF Switch
 - (a) A push switch on the front panel.
 - (b) Paper feeds to the next TOF position, which is set in the VFU, when this switch is depressed.
 - (c) This switch is disabled when the printer is in the SELECT status.
- (4) POWER ON/OFF Switch
 - (a) A two-position rocker switch located on the left rear side of the case.
 - (b) When the rear portion (marked) of this switch is depressed, the printer is powered on, and vice versa.

6-4. Limit Switches

- (1) Paper Empty Switch
 - (a) A microswitch located in front of the print platen.
 - (b) This switch is activated when the last two-line space of the paper has been left.
 - (c) When the switch is activated, the Paper Empty Signal (PE) is generated, and the "PE" lamp on the front panel is lit.

05
Copy Sample .T
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- (d) When the "PE" status is created, the printer automatically turns to the DESELECT status.
- (2) Interlock Switch
 - (a) A microswitch installed on the left inner side of the bottom case and adjacent to the power on/off switch.
 - (b) When the top case cover is opened, this switch disables the motor drive and paper feed.

6-5. Indicator Lamps

The following LED indicator lamps are located on the front panel.

- (1) "PE" Lamp (Red)
This lamp is lit when the Paper Empty Switch is activated. (The printer is in the DESELECT status when the lamp is lit, and no data reception will result.)
- (2) "POWER" Lamp (Green)
This lamp is lit when the printer power is ON.
- (3) "SEL" Lamp (Green)
This lamp is lit when the printer is in the SELECT status.

6-6. Other Functions

- (1) Printing by DATA BUFFER
Printing starts, in addition to the time when a print command code is entered, in the following instance:
 - (a) When the DATA BUFFER has stored printable characters, including spaces, for a full line, provided that the switch 2-6 is in the closed position. (Refer to Para. 5-8)
- (2) PE Override Function
 - (a) When the "PE" status is created while data are being received, the data for one line will be received and printed out. Then, the printer reverts to the DESELECT status.
 - (b) When the DATA BUFFER has not stored data, and the "PE" status is created, by depressing the SELECT switch, data for one line is received and printed out. After the printing is completed, the printer automatically reverts to the DESELECT status.
- (3) Self-Test Print
The self-test print is performed in the following sequence:
 - (a) The power switch is turned on while the LF switch is held depressed. Then, the print action starts.
 - (b) The first 32 lines will be printed in 10 CPI, and the next 32 lines will be printed in double-width.
 - (c) The printing may be stopped any time by turning the power switch off.

7. Code Table7-1. For U.S.A. (ASCII Code)

| b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|----|----|----|----|----|----|----|----|------|----|---|---|---|---|-----|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | SP | 0 | @ | P | ' | p | | |
| 0 | 0 | 0 | 0 | 1 | 1 | | | DC 1 | ! | 1 | A | Q | a | q | |
| 0 | 0 | 1 | 0 | 2 | | | | | " | 2 | B | R | b | r | |
| 0 | 0 | 1 | 1 | 3 | | | | DC 3 | # | 3 | C | S | c | s | |
| 0 | 1 | 0 | 0 | 4 | | | | | \$ | 4 | D | T | d | t | |
| 0 | 1 | 0 | 1 | 5 | | | | | % | 5 | E | U | e | u | |
| 0 | 1 | 1 | 0 | 6 | | | | | & | 6 | F | V | f | v | |
| 0 | 1 | 1 | 1 | 7 | | | | | * | 7 | G | W | g | w | |
| 1 | 0 | 0 | 0 | 8 | | | | CAN | (| 8 | H | X | h | x | |
| 1 | 0 | 0 | 1 | 9 | | | | EM |) | 9 | I | Y | i | y | |
| 1 | 0 | 1 | 0 | A | L | F | | | * | : | J | Z | j | z | |
| 1 | 0 | 1 | 1 | B | V | T | | | + | ; | K | [| k | { | |
| 1 | 1 | 0 | 0 | C | F | F | FS | | . | < | L | \ | l | ' | |
| 1 | 1 | 0 | 1 | D | C | R | GS | | - | = | M |] | m |] | |
| 1 | 1 | 1 | 0 | E | S | O | RS | | . | > | N | ^ | n | ~ | |
| 1 | 1 | 1 | 1 | F | S | I | US | | / | ? | O | _ | o | DEL | |

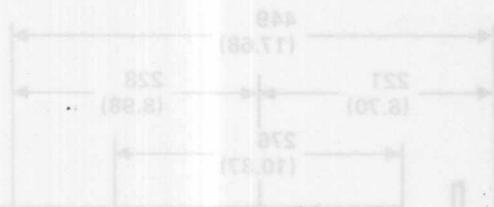
7-2. For Japan, U.K., Germany, Sweden

The following character changes are made in reference to the ASCII code table of Para. 7-1.

| Address | 23 | 24 | 40 | 5B | 5C | 5D | 5E | 60 | 7B | 7C | 7D | 7E |
|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| U.S.A. (Standard) | # | \$ | @ | [| \ |] | ^ | ~ | { | | } | ~ |
| Japan | | | | | ¥ | | | | | | | |
| U.K. | £ | | | | | | | | | | | |
| Germany | | | § | Ä | Ö | Ü | | | ä | ö | ü | ß |
| Sweden | | ¤ | É | Ä | Ö | Å | Ü | é | ä | ö | å | ü |

Blank Spaces: Same as U.S.A.'s

OUTLINE DIMENSIONS



8. Other Conditions

8-1. Operating Temperature & Humidity

$5^{\circ} \pm 40^{\circ}\text{C}$ ($41^{\circ} \pm 104^{\circ}\text{F}$)
10 ~ 80% RH

8-2. Storage Temperature & Humidity

$-25^{\circ} \pm 60^{\circ}\text{C}$ ($13^{\circ} \pm 140^{\circ}\text{F}$)
0 ~ 90% RH

8-3. Voltage and Frequency

115V \pm 10%, 60Hz
or 100V \pm 10%, 50 or 60Hz
or 220V \pm 10%, 50Hz
or 240V \pm 10%, 50Hz

8-4. Wattage

Stand-by: 7W
Printing: 80W

9. Weight & Dimensions

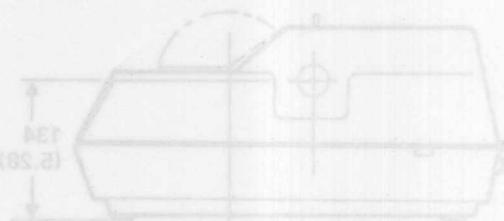
9-1. Weight:

10kg.

9-2. Dimensions:

449(W) x 185(H) x 375(D) mm
(17.7 x 7.3 x 14.8")

UNIT: MM (INCH)



NEVER USE A WRONG RIBBON. USE OF AN ORDINARY RIBBON
FOR TYPEWRITER OR OTHER NON-DOT-MATRIX PRINTING DEVICE

MAKES IRREPARABLE DAMAGE TO THE PRINT HEAD.

Note: At the spouse best the ribbons are exclusively supplied to
the Model 8300 Series Printers.

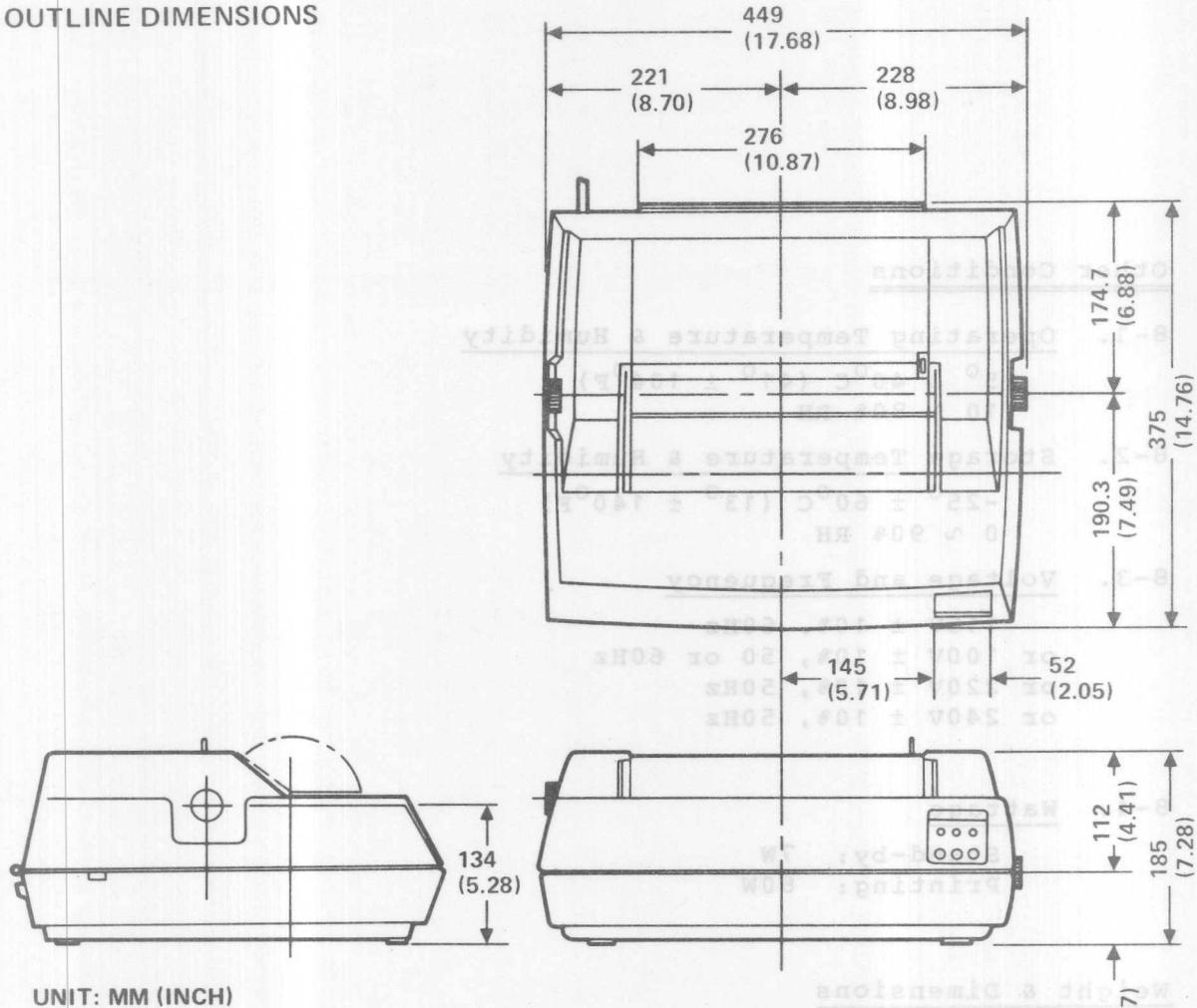
Supply, a bag Number
8334-3348 (234 prints)

8334-3348 (210 prints)

116-2386-366 (100 prints)

116-2386-366 (100 prints)

OUTLINE DIMENSIONS

10. Spare Ribbon-Spool Assembly

Spare Ribbon-spool assembly should be one of the following products or an equivalent:

Supplier's Part Number

8234-93449 (L34 Purple)

8234-93496 (Black)

116-2386-366 (Purple)

116-2386-966 (Black)

Supplier's Name

Columbia Ribbon & Carbon Mfg. Co.

Columbia Ribbon & Carbon Mfg. Co.

Office Supplies Div., Addressograph Multigraph Corp.

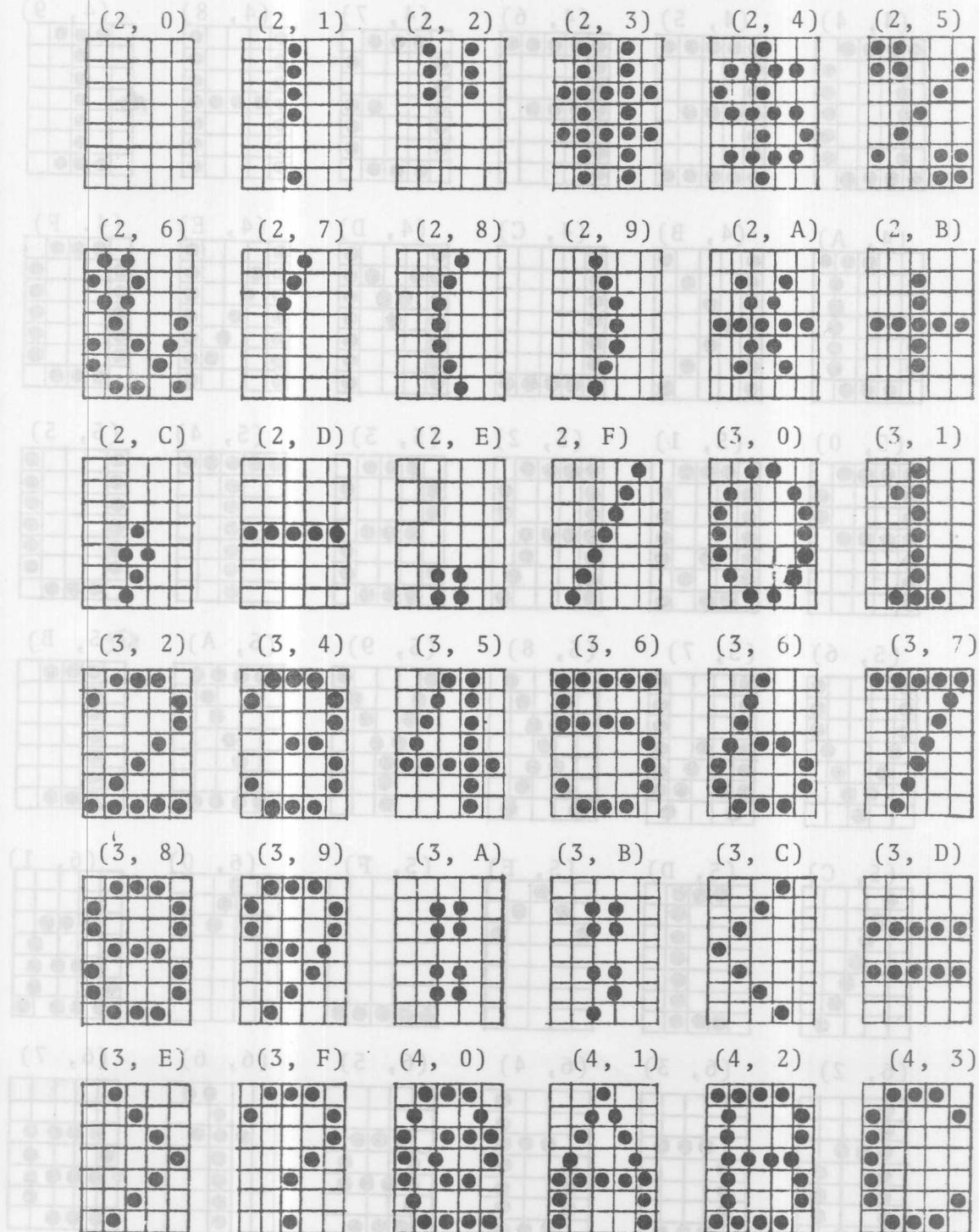
Office Supplies Div., Addressograph Multigraph Corp.

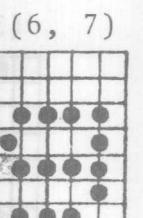
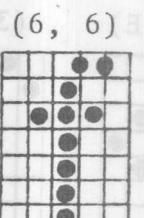
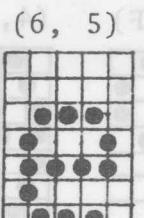
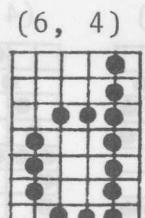
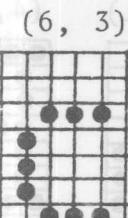
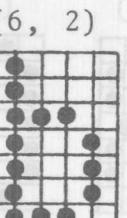
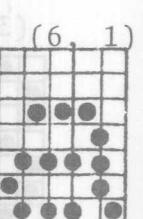
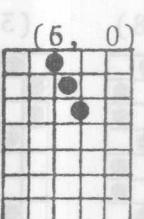
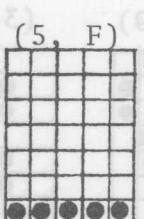
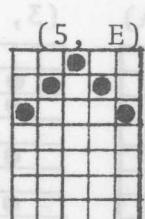
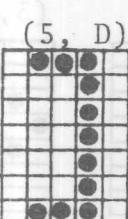
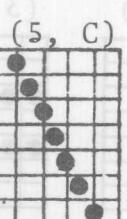
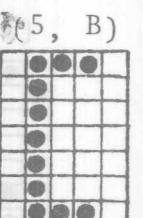
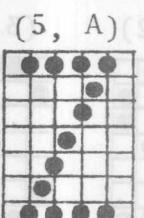
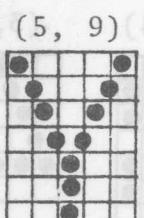
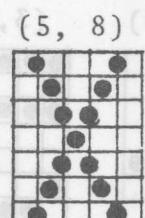
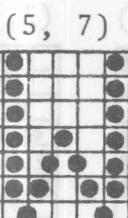
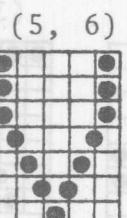
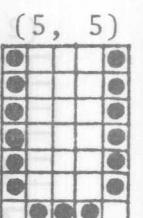
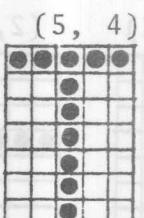
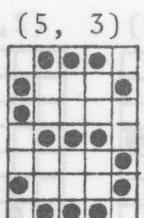
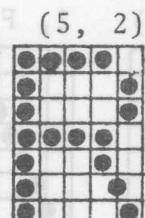
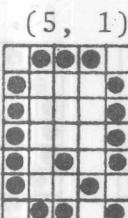
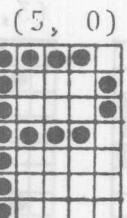
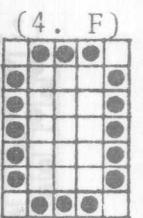
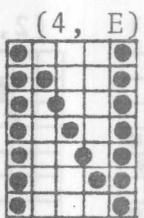
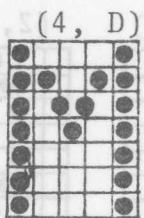
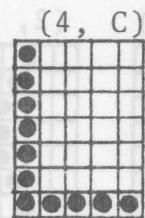
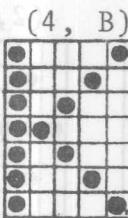
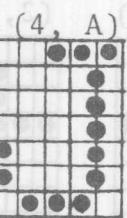
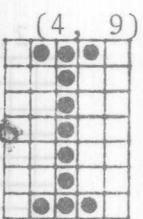
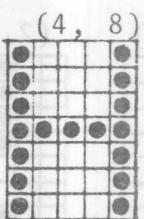
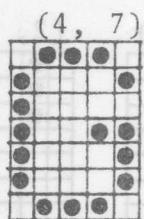
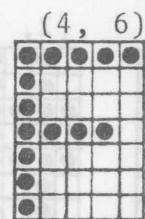
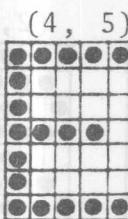
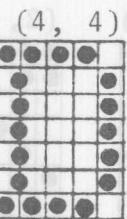
Note: All of the above part numbers are exclusively assigned to the Model 8300 Series Printers.

NEVER USE A WRONG RIBBON. USE OF AN ORDINARY RIBBON
FOR TYPEWRITER OR OTHER NON-DOT-MATRIX PRINTING DEVICE
MAY CAUSE IRREPARABLE DAMAGE TO THE PRINT HEAD.

APPENDIX 1

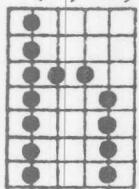
Dot-Matrix Format

SHEET (1)

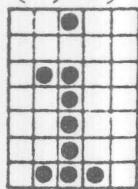
SHEET (2)

SHEET (3)

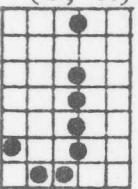
(6, 8)



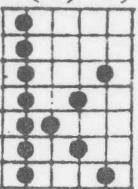
(6, 9)



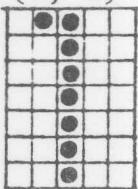
(6, A)



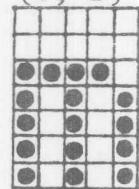
(6, B)



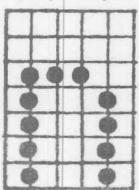
(6, C)



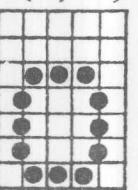
(6, D)



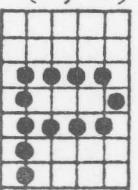
(6, E)



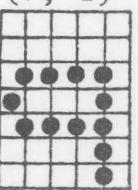
(6, F)



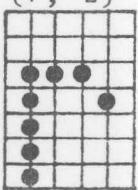
(7, 0)



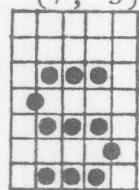
(7, 1)



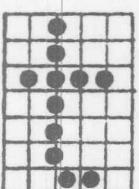
(7, 2)



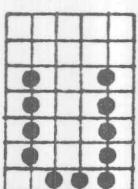
(7, 3)



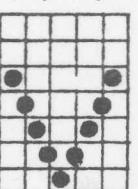
(7, 4)



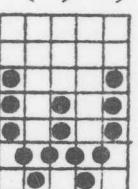
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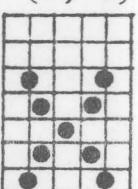
(7, 6)



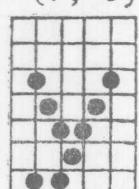
(7, 7)



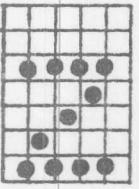
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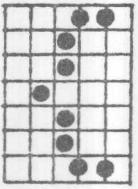
(7, 9)



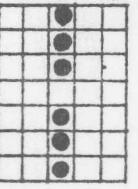
(7, A)



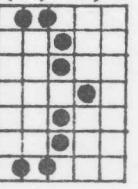
(7, B)



(7, C)



(7, D)



(7, E)

